

What is claimed is:

✓ 1. An intervertebral prosthetic joint, comprising:  
a first component adapted to engage a first vertebra and including a first articular surface; and

5 a second component adapted to engage a second vertebra and including a second articular surface, said first and second articular surfaces cooperating to permit articulating motion between said first and second components; and

wherein at least one of said first and second articular surfaces includes at least one surface depression configured to facilitate removal of matter disposed between abutting  
10 portions of said first and second articular surfaces.

2. The intervertebral prosthetic joint of claim 1, wherein said surface  
a depression comprises a groove <sup>extendable</sup> ~~extending~~ beyond abutting portions of said first and  
second articular surfaces at some point during said articulating motion.

15

3. The intervertebral prosthetic joint of claim 1, wherein said surface depression comprises an opening in communication between said at least one of said first and second articular surfaces and a surface remote from abutting portions of said first and second articular surfaces.

20

4. The intervertebral prosthetic joint of claim 1, wherein one of said first and second articular surfaces comprises a convex surface, another of said first and second articular surfaces comprises a concave surface, at least a portion of said convex surface

abutting at least a portion of said concave surface to permit said articulating motion.

5. The intervertebral prosthetic joint of claim 4, wherein said convex and concave surfaces are substantially spherical-shaped.

5

6. The intervertebral prosthetic joint of claim 5, wherein said surface depression comprises a groove extending inwardly from a circumference of at least one of said convex and concave surfaces.

10

✓ 7. The intervertebral prosthetic joint of claim 4, wherein said surface depression comprises a groove extending along at least a portion of said at least one of said convex and concave surfaces.

15

8. The intervertebral prosthetic joint of claim 7, wherein said groove extends inwardly from a periphery of said at least one of said convex and concave surfaces.

a 9. The intervertebral prosthetic joint of claim 7, wherein said groove ~~extends~~ *is extendable* beyond abutting portions of said convex and concave surfaces at some point during said articulating motion.

20

10. The intervertebral prosthetic joint of claim 7, wherein said groove extends across said at least one of said convex and concave surfaces to divide said at least one of said convex and concave surfaces into two distinct portions.

11. The intervertebral prosthetic joint of claim 10, wherein said distinct portions are substantially symmetrical.

5 12. The intervertebral prosthetic joint of claim 7, wherein said groove extends along said at least one of said convex and concave surfaces in a non-linear configuration.

10 13. The intervertebral prosthetic joint of claim 12, wherein said non-linear configuration is a curvilinear configuration.

14. The intervertebral prosthetic joint of claim 7, wherein a plurality of said grooves extends along said at least one of said convex and concave surfaces.

15 15. The intervertebral prosthetic joint of claim 7, wherein said groove extends along an outer contour of said at least one of said convex and concave surfaces.

17 16. The intervertebral prosthetic joint of claim 7, wherein said groove has a length and a width, said length being greater than said width.

20 18 17. The intervertebral prosthetic joint of claim 4, wherein said surface depression comprises an opening in communication between said one of said convex and concave surfaces and a surface remote from said abutting portions of said first and second convex and concave surfaces.

16  
18. The intervertebral prosthetic joint of claim 15, wherein said remote surface is a vertebral bearing surface configured to engage a corresponding one of the first and second vertebrae.

5

19. The intervertebral prosthetic joint of claim 4, wherein a portion of said convex surface is flattened to form said surface depression.

20. The intervertebral prosthetic joint of claim 4, wherein at least one of said convex and concave surfaces is at least partially surrounded by a tapered surface to limit said articulating motion within a predetermined range of motion.

21. The intervertebral prosthetic joint of claim 20, wherein said tapered surface is a conical surface extending entirely about said at least one of said convex and concave surfaces.

22. The intervertebral prosthetic joint of claim 1, wherein each of said first and second components includes at least one channel configured to accept a corresponding portion of an insertion tool therein to maintain said first and second components at a predetermined position and at a predetermined orientation relative to one another during insertion of the prosthetic joint between the first and second vertebrae.

23. The intervertebral prosthetic joint of claim 1, wherein each of said first and second components includes a vertebral bearing surface and a flange extending from said vertebral bearing surface, said flange being adapted to penetrate a corresponding one of the first and second vertebrae, said flange defining at least one opening therethrough to  
5 permit bone growth through said flange.

24. The intervertebral prosthetic joint of claim 1, wherein the matter comprises particulate material.

10 ✓ 25. An intervertebral prosthetic joint, comprising:  
a first articular component adapted to engage a first vertebra and including a projection; and  
a second articular component adapted to engage a second vertebra and including a recess, at least a portion of said projection being disposed within said recess to permit  
15 articulating motion between said first and second components; and  
wherein at least one of said projection and said recess defines at least one cavity configured to facilitate removal of matter disposed between said projection and said recess.

20 26. The intervertebral prosthetic joint of claim 25, wherein said projection includes a convex surface, and wherein said recess includes a concave surface, at least a portion of said convex surface abutting at least a portion of said concave recess to permit said articulating motion.

27. The intervertebral prosthetic joint of claim 26, wherein said cavity comprises a flattened portion extending along at least a portion of said generally convex surface.

5

28. The intervertebral prosthetic joint of claim 26, wherein said cavity comprises a groove extending along at least a portion of at least one of said convex and concave surfaces.

10

29. The intervertebral prosthetic joint of claim 26, wherein said cavity comprises an opening communicating between said one of said convex and concave surfaces and a surface remote from said at least one of said convex and concave surfaces.

30. An intervertebral prosthetic joint, comprising:

15

a first articular component having a bearing surface adapted to engage a first vertebra; and

a second articular component having a bearing surface adapted to engage a second vertebra; and

wherein each of said first and second articular components includes a flange extending from said bearing surface and configured to penetrate a corresponding one of the first and second vertebrae, said flange defining at least one opening therethrough to permit bone growth through said flange.

a 31. The intervertebral prosthetic joint of claim 30, wherein said flange is *positionable* ~~positioned~~ within a preformed opening in said corresponding one of the first and second vertebrae.

5

32. The intervertebral prosthetic joint of claim 31, wherein said flange has a length and is tapered along at least a portion of said length to facilitate insertion of said flange into said preformed opening.

10

33. The intervertebral prosthetic joint of claim 31, wherein said flange has a leading end, said leading end defining a beveled surface to facilitate insertion of said flange into said preformed opening.

15

34. The intervertebral prosthetic joint of claim 30, wherein each of said first and second articular components includes an articular surface disposed generally opposite said bearing surface, said articular surfaces cooperating to permit articulating motion between said first and second components.

20

35. The intervertebral prosthetic joint of claim 34, wherein at least one of said articular surfaces includes at least one surface depression to facilitate removal of matter disposed between said articular surfaces.

36. The intervertebral prosthetic joint of claim 35, wherein said surface depression is a groove extending along said at least one of said articular surfaces.

37. The intervertebral prosthetic joint of claim 36, wherein one of said first  
 5 and second articular surfaces comprises a convex surface, another of said first and second  
 articular surfaces comprises a concave surface, at least a portion of said convex surface  
 abutting at least a portion of said concave surface to permit said articulating motion, said  
 groove *is extendable* extending beyond said abutting portions of said convex and concave surfaces at  
 some point during said articulating motion.

38. The intervertebral prosthetic joint of claim 30, wherein said flanges are  
 coated with a bone-growth promoting substance to facilitate bone growth onto said  
 flanges.

39. The intervertebral prosthetic joint of claim 30, wherein said flange defines  
 a plurality of said openings therethrough.

40. An intervertebral prosthetic joint, comprising:  
 a first articular component including means for engaging a first vertebra; and  
 20 a second articular component including means for engaging a second vertebra;  
 and

wherein said first and second articular components include surface means for  
 permitting articulating motion therebetween, said surface means including means for



removing matter disposed between abutting portions of said first and second articular components.

205070" 62524007